DOCUMENT RESUME

ED 240 546 CS 207 552

AUTHOR Appleby, Bruce C.
TITLE Computers and Composition: An Overview.
PUB DATE [83]
NOTE 16p.
PUB TYPE Viewpoints (120) -- Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Assisted Instruction; *Educational Change; Elementary Secondary Education; Futures (of Society); *Microcomputers; Revision (Written Composition); *Technological Advancement; Word Processing; *Writing Instruction; Writing Processes

ABSTRACT

The tools of writing have changed as technology has become more advanced. In fact, the contributions of the microcomputer are already beginning to make print and paper technology appear primitive. The book is at a disadvantage since it stores and displays the information, whereas the microchip stores while the computer displays. Because of this basic difference, interaction with the information stored is possible with the computer, while the book in and of itself is essentially passive. Word processing is also changing the ways in which writing and the writing process are perceived. Nearly all comments by writers who actively use word processors indicate that processing's great advantage is speed. Beyond this important consideration is that writers can start to see revision as part of the process of moving from writer to reader based prose. The microcomputer has also influenced the teaching of writing. Already, experimental and developmental programs in the use of computers to teach writing are being developed all over the world and at all levels of education. Despite the microcomputer's potential for writing and compostion, however, humanists should be warned against the possible economic, social, racial, and sexual differences that may surface as part of the computer culture. (A bibliography on computers and composition is appended). (HOD)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED240546

# COMPUTERS AND COMPOSITION: AN OVERVIEW

by

BRUCE C. APPLEBY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Bruce C. Appleby
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Caught in a Tofflerian world where the rate of change astounds even those of us who have espoused Toffler's dictum that change is changing, we look around and see amazing ventures in high technology which our students seem to accept with no sign of apprehension. John Culkin reminded us in 1968 that a lot of things had happened in the previous 20 years and that most of them plugged into the wall. "Don't say it can't be done because tomorrow someone will have done it" has become, in the field of computers and composition, "Don't say it can't be done because someone did it five minutes ago." Since most of our students have been born into this world of media bombardment and technological control, they can't, of course, realize from the perspective of years and history just how great these changes are.

Consider that you can buy a kit from Heathkit and build your own robot. Robotics, as a field of high technology, is expanding so fast that we have in Kentucky and Tennessee plants where nearly all the manufacturing work is done by robots. In California, we find a robot being used to instruct medical students. Consider that just as we are starting to understand that the silicone chip and sand are somewhat the same, the British are working with

CS207552

Josephson's Junction, a new kind of chip that uses cold as its medium for transmitting messages; of course, supercomputers are making chips obsolete. Consider these new supercomputers, capable of handling 150 million operations per second (as compared to several hundred per second on a personal computer). Having realized you can't comprehend that many operations, look at the new super-supercomputers coming from Hitachi and Fujitsu, capable of performing 10 billion calculations per second. (Chicago Tribune, March 29, 1983). Who uses or needs such supersupercomputers? One of the major purchasers seems to be the United States government, which uses this capability for code breaking.

Look in a different direction, from large to small. One of my students this semester did the correlations for his research paper, as well as the data processing and word processing, on his Sinclair ZX81, a British-made computer kit that cost him about $100. He built it, then added the necessary peripherals for another $100. The student is a philosophy major. The new Gridstar is a $10,000 book sized computer which stores an immense amount of information and which can be networked into a main frame computer through a modem for immense operations, considering its size. ("Networked" and "modem" are neologisms which can be fought on traditional grounds, but denying new words for new concepts in new fields of research and development has never done English teachers or their students much good. Those who wanted to return to Shakespeare's perfectly acceptable use of "ain't" were frustrated, too.)

If, then, you see yourself as a Luddite who wants to commit technocide, your chances of making a difference with your protest are relatively slim, as slim as the efforts to remove "Ya' know"

from our students' vocabularies or to mark "orientate," as in "I was orientated," as a nonword.

Douglas Adams, in The Hitchhiker's Guide to the Galaxy (Pocket Books, 1979) presents us with a supercomputer which is given seven and a half million years to answer the questions, "Who am I? What is my purpose in life? Does it really, cosmically speaking, matter if I don't get up and go to work?" Before the computer gives us the answer to the question of the meaning of life, we find a group which presents itself:

> "We are quite definitely here as representatives of the Amalgamated Union of Philosophers, Sages, Luminaries and Other Thinking Persons, and we want this machine off, and we want it off now! . . . The Quest for Ultimate Truth is quite clearly the inalienable prerogative of your working thinkers . . . . We demand rigidly defined areas of doubt and uncertainty!"

As English teachers, we have often demanded "rigidly defined areas of doubt and uncertainty." In a world where binary thinking extends beyond the electrical impulses of the computer into a point of view toward all matters, be they physical or philosophical, such a demand is perhaps good. However, we cannot forget our obligation to help our students understand their world as well as ours. As Jake Page reminds us in the November, 1982, issue of Science, '82, "To moan about new technologies disrupting the social order--instead of thinking about how to make new technologies work better--is to look at your hand and wish it were a paw."

The microcomputer as a tool then becomes our concern. ". . .(T)o look at your hand and wish it were a paw" is an apt analogy when looking at the fact we have always used tools in order to write. Writing and then publishing what we write have always been the results of technology. Caxton and Gutenburg are remembered for their

technological innovations, not for their literary contributions. On a personal level, we each have a history of having advanced in our writing as the use of tools by which we write has advanced. After Mother took away my crayon and made me wash the wall on which I had been writing, she gave me a pencil and paper. This was my first change in writing tools. The antique manual typewriter I got as a gift when I was eight gave way to the portable typewriter I received when I graduated from high school. When I first used an electric typewriter at school, I quickly wanted a portable electric to use at home. My first experience using a Selectric I led quickly to the desire (perhaps need) for a Selectric II, since that little button with an "X" in the lower right hand corner is very handy, an "automatic eraser" designed for someone who types as I do. I now sit at my Apple II+ and think of the Apple IIe I'll be using this fall as I envy my colleague in Victorian literature who is purchasing an I.B.M. personal computer this week.

From pen and quill through microcomputer, the tools of writing have constantly changed as the technology of the culture has changed. Ask yourself which you value more: the book as a physical object or the ideas that are in the book. The history of books is the history of technology. Indeed, if one wants to deny the necessity and contributions of technological change to our profession, then hard-bound books are questionable, since handcopied manuscripts are more closely related to the actual process of writing. We have got to realize that print and paper technology is already starting to appear primitive.

In the chapter titled "The Death of the Printed Page" in his book The Micro Millenium (Washington Square Press, 1979), Christopher Evans gives cogent reasons to back his claim of the superiority of the computer over the book. Size of the basic data unit is a very important matter, as is cost. More importantly, the book is at a disadvantage since it both stores and displays the information, where the microchip stores while the computer displays. Because of this basic difference, interaction with the information stored is possible through the computer, where the book in and of itself is essentially passive. Consider this possibility: you go to bed and put the microchip of your favorite Dickens' novel into your leather-bound, book size microcomputer. You set the timer, since you know your reading pattern well enough to realize you will fall asleep in 20 minutes. You display the print on the ceiling of your bedroom, adjusted to your eyes so that you can read without your glasses. After you quietly and pleasantly drift off with visions of Little Nell dancing through your mind, the computer turns itself and your reading light off. (The preceding is not fantasy.)

Why not fantasy? Anyone can now buy Deadline, 35,000 copies of which were sold in the last two years--at a price of $49.95. Deadline, "published"by Infocom, is a computer game that is closer to being a genre of fiction since it is a participatory novel (also called interactive fiction and "participa-stories") where the reader/player does not simply solve a mystery through reading the story. The reader/player is a part of the story because each question, decision or action alters the story--even to the extent of potential murder of or by the reader/player. Infocom also "publishes" (the quotation marks are necessary now, but probably

won't be in two years) an adventure fantasy series known as the Zork Trilogy. In 1982 about 100,000 copies of five different "participa-stories" in the Zork Trilogy were sold. The genre will develop as data-storage and programming techniques develop and the relatively simple vocabulary, grammar, and syntax should become much more sophisticated. (Edward Rothstein, "Reading and Writing," New York Times Book Review, May 8, 1983) The fantasy in such developments is not in the fact that these programs exist, but in the potential for teaching literature and composition. Mark Twain would definitely approve as, I imagine, would Edgar Allen Poe.

Turning from this scene, which you may find bizarre or marvelous, depending on how honest you are in acknowleding the influence of technology on your life, let us look at the possibilities and the actualities of computers and composition.

Word processing and the word processing capabilities of microcomputers are changing the way in which we perceive and perform the writing process. In the April, 1983, issue of Personal Computing, 74 different word processing packages are analyzed comparatively, with 39 different editing features (features for the input and correction of text) being compared and 40 different formatting features (features for the output and printing of text) being analyzed. Beyond the machines and the programs and the materials lies the question of how can word processing help us in writing and in teaching writing.

If we truly see revision as being that stage of the writing process which ". . . turns inspiration into creation" and truly believe that ". . . writing is rewriting . . .," (Donald Murray,

A Writer Teaches Writing, Houghton Mifflin, 1968), then it is in revision that the microcomputer offers the most to us. In his speech to the Conference on English Education luncheon in Seattle in April, Geoffrey Summerfield reminded us: "When we read, we're also writing. When we write, we're also reading." If revision is a matter of erasing, scratching, cutting, pasting, redoing, recasting, moving and debugging our text, then the word processing approach offers us the luxury of time to truly revise our text. Nearly all comments by writers who actively use word processors as their writing tool indicate that the great advantage word processing offers is one of time. Some estimates are that one can save as much as 50% of writing time by using a word processing approach. Beyond this most important consideration is that one can start to see revision as part of the process of adopting prose from the demands and needs of the writer to those of the reader. Alvin Toffler started using a word processor when he was about one-third of the way through The Third Wave. He found that by being able to rework materials and not having to retype each time, he ". . . comes closer to seeing them (the words) as a reader while still working as a writer." (Courter, "Word Machines for Word People," Publisher's Weekly, February 13, 1981) Seeing your words as a reader while still working as a writer has to be a major goal of all of us who teach writing. No English teacher worth her salary is unaware of the difficulties young writers have with revision. (And can anyone appreciate as fully as an English teacher the irony of the machine telling you, "?Syntax error"?)

Again, I would point out to those who deny the importance of the tools used by writers that The Adventures of Huckleberry Finn was the first novel in American literature to be produced at a typewriter. Had Mark Twain been a Luddite, his impact on American literature would be much different.

In "The Computer Kids and Composition," Valeria Arms lets students say what it is like to compose at a computer. "Ever since I started using the word processor, I have become more and more confident of my writing ability. Anxiety over having an assignment finished on time, and concern over whether or not I could have done a better job on an assignment are virtually gone. Ease of change, revision, and correction allow me to try almost any combination of styles in my writing without having to worry about wasting too much time." The computer ". . . allows no room for laziness because of the ability to correct and improve my writing style at the push of a few buttons." And "I like the spell function, the ease of re-paragraphing, everything the computer has to offer. It almost makes writing fun!"

There are experimental and developmental programs in the use of computers to teach writing going on all over the world at all levels of education. The October, 1983, issue of College Composition and Communication will have a cluster of articles on computers and composition, including an extensive bibliography by Helen Schwartz. The "beginner's guide" bibliography which accompanies this article is an indication of some of the materials which are available. If cyberphobia still constricts your veins, look particularly at the articles by Bradley, Jaycox, Nold and H. Schwartz.

Some of the programs developing new ideas and new materials, as well as doing research, are like the one at Colorado State University, where Kate Kieffer and Charles Smith are refining the Writer's Workbench program from Bell labs. Jack Jobst at Michigan Tech has developed an interesting program for grading and recording in teaching composition. Steve Marcus of the University of California at Santa Barbara has available an unusual and exciting idea called "Compupoem." The Minnesota Educational Computing Consortium is a state-wide program that has developed many excellent programs for use in teaching writing. In Britain, Dan Chandler has recently edited Exploring English with Microcomputers (H. Cave and Co.,Ltd., 1983). Some of the most exciting experimental work is being done at the University of Minnesota by Lillian Bridwell and Donald Ross, who are investigating the effects of word processing on experienced writers as well as doing hardware evaluation, curricular assessment, and student evaluation of courses taught via word processing. In addition, Bridwell and Ross are doing experimental work in teaching writing across the curriculum through the use of the computer. The combination of word processing approaches with writing across the curriculum programs seems especially fruitful, since our colleagues in disciplines outside English are far ahead of us in the research applications of the computer. Our introduction of computers into writing across the curriculum programs will be an important development in the next few years.

This brief listing of some of the programs being developed around the country is intended as an example of what is being done and is only a brief indication of the many programs now being developed. Special applications of word processing approaches to special

populations, such as the designing of special sections of our freshman composition courses for dyslexic students at Southern Illinois University at Carbondale next year, will become even more commonplace.

I cannot end this piece without warning as to the potential ill effects of the use of computers in teaching English and of the impact of computers on education in general. My concern here is not the same as Neil Postman's in "The Las Vegasizing of America," where he presents an argument on the fundamental changes that electricity has made in public communication. Rather, my concern, perhaps an extension of cyberphobia, is the potential of developing an entire generation which is divided between those who have grown in reasoning abilities and awareness through the use of the computer and those who will be left behind because of their lack of training and lack of use of computers. We are already beginning to see some of the potential problems when we realize, as the National Center for Educational Statistics pointed out in 1982, the use of microcomputers in public schools tripled between fall of 1980 and spring of 1982. What they failed to point out is that 80% of the country's 2,000 largest and richest public high schools have at least one micro available to students while 60% of the 2,000 poorest schools have none. As Herbert Lobsenz, President of Market Data Retrieval Inc, the company which did this national survey, says: "If computers are the wave of the future, a lot of America is being washed out." (Time, November 12, 1982)

Those being washed out will most likely be those who are washed out in other ways. Beyond this economic wave, which has obvious racial overtones, let us look carefully at the sexist

implications of our present fascination with computers. Those of us who work with computers and composition at the college level are not aware of any sexual differences in interest in computers. None of us can ignore the fact that "the culture of computing is overwhelmingly male. With few exceptions, men design the video games, write the software, sell the machines and teach the courses." (Psychology Today, March, 1983) Elementary school usage would seem to be evenly split between boys and girls, but when puberty strikes, a vast difference is seen. Step into any video game arcade and you'll see part of the proof. Go into any junior high school computer class and note the difference in male and female enrollment and participation. Perhaps computer anxiety can be seen as an extension of math anxiety. Perhaps not.

These potential economic, social, racial and sexual differences that are starting to surface as part of the computer culture should be of major concern to us as humanists. It is as humanists that we can bring to bear our concerns. It is as humanists that we can see that the full potential for the use of the microcomputer in teaching is explored and developed.

In 1968, the reference year with which I started this paper, Richard Brautigan, in The Pill vs. the Springhill Mine Disaster (Delta), had a marvelous poem titled "All Watched Over by Machines of Loving Grace." Brautigan tells us of

> ". . . a cybernetic meadow
> where mammals and computers
> live together in mutually
> programming harmony . . ."

and of

> ". . .a cybernetic forest
> where deer stroll peacefully
> past computers."

Let us, as English teachers and as humanists, be

". . . returned to our mammal
brothers and sisters,
and all watched over
by machines of loving grace."

Bruce C. Appleby
Department of English
Southern Illinois University
Carbondale, Illinois 62901

# A BIBLIOGRAPHIC GUIDE FOR BEGINNERS ON COMPUTERS AND COMPOSITION

by
BRUCE C. APPLEBY


Arms, V. "The Computer Kids and Composition" 1982 ED 217 489

Barth, R. "ERIC/RCS Report: An Annotated Bibliography of Readings for the Computer Novice and the English Teacher" ENGLISH JOURNAL 68(January, 1979)

Bell, K. "The Computer and the English Classroom" ENGLISH JOURNAL 69 (December, 1980)

Bourque, J. "Understanding and Evaluating: The Humanist as Computer Specialist" COLLEGE ENGLISH V. 45, #1, January, 1983

Bradley, V. "Improving Students' Writing with Microcomputers" LANGUAGE ARTS V. 59, #7, October, 1982

Bridwell, L. "Composing and Computers: Case Studies of Experienced Writers" IN REAL-TIME COMPOSING A. Matsuhashi (ed.) Longman, forthcoming

Burns, H. "Stimulating Rhetorical Invention in English Composition Through Computer-Assisted Instruction" 1979 ED 188 245

Burns, H. "A Writer's Tool: Computing as a Mode of Inventing" 1980 ED 193 693

Caldwell, R. "Guidelines for Developing Basic Skill Instructional Materials for Use with Microcomputer Technology" EDUCATIONAL TECHNOLOGY 20(October, 1980)

Chandler, D. (ed.) EXPLORING ENGLISH WITH MICROCOMPUTERS H Cave & Co Ltd, 1983

Collier, R. "The Influence of Computer-Based Text Editors on the Revision Strategies of Inexperienced Writers" 1982 ED 211 998

Connell and Humes "Using Microcomputers for Composition Instruction" 1981 ED 203 872

Courter, G. "Word Machines for Word People" PUBLISHER'S WEEKLY Feb. 13, 1981

Epes, Kirkpatrick & Southwell "The COMP-LAB Approach: An Experimental Basic Writing Course" JOURNAL OF BASIC WRITING 1979, #2

Evans, C. THE MICRO MILLENIUM Washington Square Press, 1979

Fisher, G. "Word Processing--Will It Make Kids Love to Write?" INSTRUCTOR February, 1983

Halpern, J. "Effects of Dictation/Word Processing Systems on Teaching Writing" 1982 ED 215 357

Hennings, D. "Using Computer Technology to Teach English Composition" THE EDUCATION DIGEST April, 1981

Jaycox, K. "Computer Applications in the Teaching of English" 1979 ED 183 196

Jaycox, K. "Ware, Oh Ware, Might the English Class Go?" ILLINOIS ENGLISH BULLETIN 66(Winter, 1979)

Kidder, T. THE SOUL OF A NEW MACHINE Avon, 1982

Lawler, R. W. "One Child's Learning: Introducing Writing with a Computer" 1980 ED 208 415

Lawlor, J. (ed.) COMPUTERS IN COMPOSITION INSTRUCTION SWRL Educational Research and Development, Los Alamitos, CA, 1982

Leibowicz, J. "CAI in English" ENGLISH EDUCATION V. 14, #4 December, 1982

Marcus, Stephen "Compupoem: A Computer-Assisted Writing Activity" ENGLISH JOURNAL 7(February, 1982)

McWilliams, P. THE WORD PROCESSING BOOK Prelude Press, 1982

Mullins, C. "Why a Word Processor?" THE WRITER V. 95, #8, August, 1982

Nold, E. "Fear and Trembling: The Humanist Approaches the Computer" COLLEGE COMPOSITION AND COMMUNICATION 26(October, 1975)

O'Donnell, H. ERIC/RCS RESOURCE PACKET: COMPUTER ASSISTED INSTRUCTION IN THE ENGLISH CLASSROOM ERIC Clearinghouse on Reading and Communication Skills, 1981

Postman, Neil "The Las Vegasizing of America" NATIONAL FORUM FOR PHI KAPPA PHI JOURNAL 62(Summer, 1983)

Schwartz, H. "A Computer Program for Invention and Feedback" 1982 ED 214 177

Schwartz, H. "Monsters and Mentors: Computer Applications for Humanistic Education" COLLEGE ENGLISH 44(February, 1982)

Schwartz, M. "Computers and the Teaching of Writing" EDUCATIONAL TECHNOLOGY V. 22 November, 1982

Wall and Taylor "Using Interactive Computer Programs in Teaching Higher Conceptual Skills: An Approach to Instruction in Writing" EDUCATIONAL TECHNOLOGY V. 22 February, 1982

Wilson, K. "English Teachers: Key to Computer Literacy" ENGLISH JOURNAL 70(September, 1981)

Wresch, W. "Computers in English Class: Finally Beyond Grammar and Drills" COLLEGE ENGLISH 44(1982)

Wresch, W. "Prewriting, Writing, and Editing by Computer" 1982 ED 213 045

Southern Illinois University
Carbondale, Illinois